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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,899	01/12/2001	I. T. Chen	JCTWP020A	2833
7590 01/08/2004			EXAMINER	
J C Patents Incorporated 4 Venture Suite 250 Irvine, CA 92618			AHMED, SHAMIM	
			ART UNIT	PAPER NUMBER
			1765	
DATE MAILED: 01/08/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary	Application No.	Applicant(s)	
	09/759,899	CHEN ET AL.	
	Examiner	Art Unit	
	Shamim Ahmed	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,6 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,6 and 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/18/03 has been entered.

Response to Arguments

2. Applicant's arguments filed 8/6/03 have been fully considered but they are not persuasive.

Applicants argue that Zhao fails to teach the limitation of "an overetch process using an inert gas plasma to remove a remaining of the photoresist layer and to treat the silicon oxide material".

Applicants also argue that Zhao fails to teach the removal of the photoresist is divided into two steps.

In response, examiner states that Zhao teaches that the initial removal of the photoresist using wet/dry etching process remains undesirable residues including remaining photoresist and silicon oxide, which can be plasma cleaned by using argon ion bombardment (col.1, lines 54-67).

Therefore, Zhao's photoresist removal process is divided into two steps such as the initial removal and the plasma cleaning of the residual photoresist.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 5-6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhao et al (5,660,682) in view of Sun et al (5,674,357).

As to claims 5-6, Zhao et al disclose a cleaning process of an integrated circuit device, wherein a majority of photoresist is removed by conventional method such as wet or dry etching process (col.1, lines 30-43).

Zhao et al also disclose that the photoresist removal process form undesirable material such as silicon oxide on the exposed surface of the silicon substrate and residual polymeric photoresist (col.1, lines 54-63).

Zhao et al further disclose that the undesirable material and the residual photoresist are removed or cleaned using plasma cleaning with an inert gas plasma such as argon plasma (col.1, lines 64-67 and col.2, lines 66-col.3, lines 32), which reads on applicant's limitation of "an overetch process using an inert gas plasma to remove a remaining of the photoresist layer and to treat the silicon oxide material".

Zhao et al remain silent about the majority of photoresist is removed by oxygen plasma.

However, in a method of removing photoresist, Sun et al teach that oxygen plasma is conventionally used to remove majority of photoresist for reducing the processing cost because the oxygen plasma is art recognized process (col.7, lines 64-col.8, lines 5).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time of claimed invention to combine Sun et al's oxygen plasma into dry etching of Zhao et al's process for reducing the processing cost because the oxygen plasma is an art recognized process for easily removal of photoresist as taught by Sun et al.

As to claim 11, Zhao et al teach that the overetch or the plasma cleaning process comprises an ion bombardment of the argon ions (col.1, lines 64-67).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (571) 272-1457. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Shamim Ahmed
Examiner
Art Unit 1765

SA
January 3, 2004